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# Testing the Limits of Tolerance: How Intergroup Anxiety Amplifies Negative and Offensive Responses to Out-Group-Initiated Contact

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*Three studies examine the amplifying effects of intergroup anxiety on individuals' negative and offensive responses to out-group-initiated contact. Because intergroup anxiety typically results in avoidance of the initiation of intergroup contact, these studies explored how intergroup anxiety affected individuals' interpretation of and responses to out-group-initiated contact. The authors hypothesized that intergroup anxiety amplifies individuals' threat appraisal of out-group-initiated contact as well as their feelings of anger and offensive action tendencies toward the out-group. Results showed consistent support for these hypotheses by demonstrating that intergroup anxiety amplified individuals' threat appraisal (Studies 2 and 3), anger (Studies 1-3), and offensive action tendencies toward the out-group (Study 2). Anger consistently predicted offensive action tendencies (Studies 2-3). Thus, intergroup anxiety decreased individuals' limits of tolerance by increasing their threat appraisal of out-group-initiated contact. The results are discussed in relation to theories of threat, emotion, and tolerance.*

**Keywords:** *intergroup anxiety; threat; anger; norm transgression; intergroup contact*

Sometimes people feel anxious about interacting with members of groups to which they do not belong. Such intergroup anxiety (Stephan & Stephan, 1985) has been shown to result in avoidance of the initiation of

intergroup contact (e.g., Stephan, Ybarra, Martinez, Schwarzwald, & Tur-Kaspa, 1998). However, little is known about how intergroup anxiety affects individuals' emotional responses to specific situations of out-group-initiated contact (e.g., when a homeless person asks for money). Are highly anxious individuals in these situations still more likely to avoid intergroup contact (e.g., by looking away), or are they perhaps likely to respond more negatively and offensively because they perceive such out-group-initiated contact as more threatening than do those low in intergroup anxiety?

We propose that intergroup anxiety indeed amplifies negative and offensive responses to out-group-initiated contact because anxiety increases threat appraisal of the object of anxiety (Eysenck, 1997, 2000). Intergroup anxiety should, therefore, amplify individuals' threat appraisal of out-group-initiated contact, which can

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result in stronger feelings of anger and offensive action tendencies toward the out-group to protect oneself or other group members from the object of threat (e.g., Mackie, Devos, & Smith, 2000; Smith, 1993; Van Zomeren, Spears, Fischer, & Leach, 2004). Thus, although intergroup anxiety typically results in avoidance of the initiation of intergroup contact at a general level, our argument is that it amplifies negative and offensive responses to specific situations of out-group-initiated contact. In two pilot studies and three studies we tested whether intergroup anxiety decreases individuals' limits of tolerance in this sense.

### INTERGROUP ANXIETY

The concept of intergroup anxiety was introduced by Stephan and Stephan (1985) and has inspired considerable empirical attention (e.g., Britt, Boniecki, Vescio, Biernat, & Brown, 1996; Corenblum & Stephan, 2001; Islam & Hewstone, 1993; Stephan, Diaz-Loving, & Duran, 2000; Stephan et al., 1998; Stephan & Stephan, 1996). This line of theory and research suggests that intergroup anxiety toward a specific out-group (a) predicts prejudice toward this out-group (e.g., Stephan et al., 1998, 2000, 2002) and (b) is predicted by a lack of knowledge about the out-group and by past negative contact with this out-group (e.g., Stephan et al., 2002; Stephan & Stephan, 1989). Thus, intergroup anxiety typically has a negative impact on intergroup relations by stimulating negative attitudes toward an out-group (i.e., prejudice) and avoidance of the initiation of intergroup contact. Intergroup anxiety, therefore, has potentially serious and long-lasting consequences for intergroup relations.<sup>1</sup> However, little research has focused on how intergroup anxiety influences individuals' specific emotional responses to specific situations of out-group-initiated contact.

Because intergroup anxiety typically facilitates avoidance of the out-group, intergroup contact is unlikely to be initiated by the in-group, and moreover avoidance of members of the out-group may become ingrained in in-group norms. In these cases, in-group members may perceive out-group-initiated contact as transgressing their norms, which is likely to result in negative and offensive responses toward the out-group (e.g., Mackie et al., 2000). Moreover, because anxiety typically increases individuals' threat appraisal of the object of their anxiety (Eysenck, 1997, 2000), intergroup anxiety may amplify these negative and offensive responses to protect the self or other in-group members. Because intergroup contact can and often is initiated by the out-group (e.g., when a homeless person asks you for money), it is important to theorize and empirically examine how intergroup

anxiety influences individuals' emotional responses to such specific situations of out-group-initiated contact.

### OUT-GROUP-INITIATED CONTACT AND THE LIMITS OF TOLERANCE

Appraisal theories of emotion (see Scherer, Schorr, & Johnstone, 2001) predict that specific appraisals of a situation shape specific emotions and action tendencies (e.g., Frijda, 1986; Lazarus, 1991). Although intergroup anxiety may be associated with avoidance at a general level, it is the appraisal of a specific situation of out-group-initiated contact that theoretically allows for both avoidance and approach responses. For example, the more strongly a specific situation of out-group-initiated contact is appraised as transgressing in-group norms, the more this should be a likely psychological basis for individuals' anger and offensive action tendencies toward the transgressor (e.g., Frijda, 1986; Scherer, 2001). Indeed, feelings of anxiety (typically because of appraisals of uncertain or anticipated threat) are associated with tendencies to avoid the object of anxiety (for more elaborated models see Frijda, 1986; Roseman, 2001; Scherer, 2001). In contrast, feelings of anger are typically shaped by appraisals of unfairness and transgressions of values or norms (or more generally a demeaning offense against me or mine, see Lazarus, 1991, 2001) and result in tendencies to respond negatively and offensively (i.e., Averill, 1983; Frijda, 1986; Lazarus, 1991, 2001).

This line of thought is not restricted to the appraisal literature. For example, theory and research on value protection (e.g., Lerner, 1980; Skitka, Baumann, & Mullen, 2004; Tetlock, 2002; Tetlock, Kirtel, Elson, Green, & Lerner, 2000; Van Zomeren & Lodewijkx, 2005) support the idea that the transgression of a value or norm results in negative and offensive responses like anger to protect the transgressed norm or value. Theory and research on the psychology of injustice have shown that moral transgressors are likely to evoke feelings of anger toward them and a desire to punish them (e.g., Mikula, 1993; Miller, 2000). Finally, research on group-based emotions also supports this line of thought (e.g., Mackie & Smith, 2002; Smith, 1993; Van Zomeren et al., 2004), with fear toward the out-group predicting out-group avoidance and anger predicting offensive action tendencies (Mackie et al., 2000).

Taken together, these different lines of work all support the idea that individuals' specific emotional responses to specific situations of out-group-initiated contact may result in negative and offensive responses toward, rather than avoidance of, the out-group.

## THE AMPLIFYING EFFECTS OF INTER-GROUP ANXIETY

Theory and research on anxiety have shown that anxiety typically increases individuals' threat appraisal of the object of their anxiety (Eysenck, 1997, 2000). Specifically, anxiety leads people to (a) focus their attention to threatening stimuli more easily (i.e., selective attention bias), (b) interpret ambiguous (social) stimuli as threatening (i.e., interpretive bias) more easily, and (c) recall threatening information more easily than neutral information (i.e., memory bias) (for reviews see Eysenck, 1997, 2000). Applied to out-group-initiated contact, intergroup anxiety should decrease individuals' tolerance of out-group-initiated contact through their increased threat appraisal. In situations where individuals appraise such contact as transgressing in-group norms, intergroup anxiety should therefore amplify individuals' anger and offensive action tendencies through their amplified appraisal of threat.

By integrating these lines of thought on intergroup anxiety and out-group-initiated contact in terms of the transgression of group norms, researchers are now in a position to resolve the paradox of how intergroup anxiety can translate into approach rather than avoidance responses to out-group-initiated contact. Although intergroup anxiety may result in avoidance at a general level, it may result in approach when people appraise the specific situation of out-group-initiated contact as transgressing in-group norms. Moreover, we expect intergroup anxiety to amplify these negative and offensive responses: It will decrease individuals' tolerance of out-group-initiated contact (as indicated by their anger and offensive action tendencies) through their threat appraisal. Indeed, because intergroup anxiety amplifies individuals' threat appraisal, their limits of tolerance should be more easily tested and exceeded—and when these are exceeded (indicated by the appraisal of norm transgression), negative and offensive responses are more likely than avoidance responses.

## HYPOTHESES AND OVERVIEW

We adopted an analytical approach in which we explored how intergroup anxiety (operationalized as an individual difference variable) influences individuals' specific emotional responses to specific situations of out-group-initiated contact (operationalized and experimentally manipulated as a situation of out-group-initiated contact in which in-group norms are strongly or weakly transgressed).

Three studies examined the key hypothesis that intergroup anxiety amplifies individuals' negative and offensive

responses to such out-group-initiated contact. More specifically, we predicted that intergroup anxiety amplifies individuals' threat appraisal, feelings of anger, and offensive action tendencies toward the out-group. However, because we expected a strong norm transgression by the out-group to exceed individuals' limits of tolerance of both those high and low in intergroup anxiety (limiting its predicted amplification effects), we expected stronger amplification effects of intergroup anxiety after a relatively weak than a relatively strong out-group norm transgression.

Pilot Study 1 first examined the usefulness of the intergroup relation between those who have homes and the homeless for our purposes (see Note 1). Pilot Study 2 pretested an experimental manipulation of a strong and weak out-group norm transgression that will be used in Studies 1 and 2.

## PILOT STUDY 1

The aim of Pilot Study 1 was to examine whether the intergroup relation between those who have homes and the homeless was one in which prejudice toward the homeless was predicted by intergroup anxiety (above and beyond other types of threat).

## Method and Results

### *Participants and Procedure*

Students (41 men, 98 women; mean age 20 years) at the University of Amsterdam received partial course credit for their participation in a survey entitled *Perceptions of the Homeless* ostensibly conducted by an independent research body mapping Dutch attitudes toward the homeless. After completing the survey, participants were thanked, debriefed, and given their course credit.

### *Measured Variables*

The survey consisted of questions to be answered with Likert-type 7-point scales (1 = *not at all*, 7 = *very much*). All items that served as indicators for the scales can be found in Appendix A. First we used an adapted version of Stephan et al.'s (2002) prejudice scale, which measured negative attitudes toward the homeless (12 items,  $\alpha = .85$ ). Second, to measure perceived threats emanating from the homeless, we also adapted scales from Stephan et al. that assessed perceived realistic threat (four items,  $\alpha = .70$ ), perceived symbolic threat (six items,  $\alpha = .78$ ), and intergroup anxiety (six items,  $\alpha = .91$ ). Furthermore, we measured frequency of negative contact (six items,  $\alpha = .82$ ) to validate its relationship with intergroup anxiety (Stephan & Stephan, 1989).



**TABLE 1:** Descriptive Statistics and Intercorrelations of Main Variables, Pilot Study 1

	2	3	4	5
1. Negative attitudes M = 3.69 SD = .82	.09	.20*	.38*	.38*
2. Realistic threat M = 1.93 SD = .79		.33*	.19*	.06
3. Symbolic threat M = 4.36 SD = 1.07			.26*	.07
4. Intergroup anxiety M = 3.32 SD = 1.33				.38*
5. Frequency of negative contact M = 2.44 SD = 1.12				

\* $p < .05$ .

## Results

The means and standard deviations of, and the correlations between, the main variables can be found in Table 1. Individuals' sense of realistic threat was lower than their sense of symbolic threat and their intergroup anxiety (both  $ps < .001$ ). Mean levels of symbolic threat were higher than levels of intergroup anxiety ( $p < .001$ ).

We first tested the hypothesis that intergroup anxiety would predict prejudice above and beyond realistic and symbolic threat. In multiple regression analyses, we used our measure of prejudice toward the homeless as the criterion variable; we used perceived realistic threat, symbolic threat, and intergroup anxiety as the predictor variables. Results indeed showed that intergroup anxiety was a unique and significant predictor of prejudice toward the homeless,  $\beta = .37, p < .001$ . Perceived realistic threat,  $\beta = -.03, p > .71$ , and symbolic threat,  $\beta = .15, p > .11$ , were not statistically significant predictors of prejudice. None of the interactions reached statistical significance.

Furthermore, we observed a positive and significant correlation between intergroup anxiety and negative contact,  $r(139) = .38, p < .05$ , and a lack of correlation between negative contact and realistic threat,  $r(139) = .06, p > .45$ , and symbolic threat,  $r(139) = .07, p > .41$ . These results suggest that intergroup anxiety toward the homeless is also uniquely related to individuals' past negative experiences with them. Thus, results showed that this intergroup relation is suitable to study the effects of intergroup anxiety.

## PILOT STUDY 2

The aim of Pilot Study 2 was to pretest an experimental manipulation of a strong and weak out-group norm transgression that we will use in Studies 1 and 2.

## Method and Results

### Participants and Procedure

One-hundred-and-thirty-five participants (gender and age unrecorded) at the University of Amsterdam received partial course credit for their participation in a short study about the opinion of 1st-year psychology students at the university on an issue in Dutch society: "How do people perceive the homeless in the Netherlands?" Participants were randomly allocated to a strong or weak out-group norm transgression condition. The basic text of the scenario for both conditions can be found in Appendix B. Participants read that the homeless started to attract the attention of people by either singing together for money (weak out-group norm transgression) or by pushing and intimidating individuals for money (strong out-group norm transgression). Then, they were asked to indicate the extent to which they agreed with several statements on Likert-type 7-point scales (1 = *not at all*, 7 = *very much*). Afterward, they were thanked, debriefed, and given their course credit.

### Measured Variables

Three items measured the degree to which participants perceived the homeless to transgress a norm ( $\alpha = .95$ ; i.e., "I think the homeless went too far for [my own/social/in-group] standards"). Four other items assessed the degree to which participants perceived being asked for money as constituting the norm transgression ( $\alpha = .86$ ; e.g., "I think the homeless went too far in asking for money"). Finally, three items assessed the degree to which participants perceived the violation of personal space as constituting a norm transgression ( $\alpha = .78$ ; e.g., "I think the homeless went too far in violating personal space"). We ran an exploratory factor analysis to confirm the construct validity of these measures. Using principal axis factoring with Oblimin rotation (which allows the factors to correlate), results showed three factors, with all items loading highly ( $> .57$ ) on their respective factor (see Russell, 2002, for a discussion of the benefits of exploratory factor analysis over, for example, principal components analysis).

## Results

Multivariate analysis of variance with the out-group norm transgression manipulation as the independent variable and the three scales as the dependent variables revealed a significant multivariate main effect,  $F(3, 129) = 11.21, p < .001, \eta^2 = .21$ . Two univariate effects were significant for norm transgression,  $F(1, 131) = 33.88, p < .001, \eta^2 = .21$ , and for violating personal space,

$F(1, 131) = 10.65, p = .001, \eta^2 = .08$ . However, there was no significant main effect for asking for money,  $F(1, 131) = 0.74, p > .39, \eta^2 < .01$ , overall  $M = 3.58, SD = 1.35$ . As expected, in the strong norm transgression condition the mean level of perceived norm transgression was higher ( $M = 6.42, SD = 0.76$ ) than in the weak norm transgression condition ( $M = 5.20, SD = 1.48$ ). A similar pattern was obtained on the measure of violation of personal space ( $M = 6.12, SD = 0.77$  for the strong norm transgression, and  $M = 5.52, SD = 1.24$  for the weak norm transgression). Thus, the results show that the experimental manipulation successfully affected individuals' perceptions of out-group norm transgression in general and the violation of personal space in particular.

## Discussion Pilot Studies 1 and 2

Pilot Study 1 provided support for the usefulness of the intergroup relation between those who have homes and the homeless because intergroup anxiety uniquely predicted prejudice toward the homeless (above and beyond other types of threat). In addition, Pilot Study 2 demonstrated the nature and effectiveness of the out-group norm transgression manipulation. Taken together, both pilot studies provide empirical support for our choice of out-group and for their strong or weak norm transgression. Studies 1 and 2, therefore, employed this out-group and this experimental manipulation of out-group norm transgression to examine the hypothesized amplifying effects of intergroup anxiety on threat appraisal (Study 2), feelings of anger (Studies 1 and 2), and offensive action tendencies toward the homeless (Study 2). In addition to these two scenario experiments, Study 3 aimed to replicate their findings in a context with stronger experimental realism.

## STUDY 1

The main aim of Study 1 was to find evidence for our key prediction that when the homeless weakly transgress a norm, intergroup anxiety should amplify individuals' negative and offensive responses to this specific situation of out-group-initiated contact. When the transgression is strong, however, intergroup anxiety should be less predictive of their responses.

However, we also used Study 1 to show that intergroup anxiety affects anger toward the out-group but not to the in-group. Although the antecedents of individuals' anger toward the out-group's action and their in-group's response obviously differ, we think it is important to show that intergroup anxiety affects responses to the out-group's action independent of an in-group response. Therefore, we also manipulated the strength of an in-group member's

response to the out-group's norm transgression and measured individuals' anger toward their group's response. We expected here that intergroup anxiety would not affect individuals' anger response to the in-group's action. Rather, we expected that individuals would only get angry with their own group after a strong in-group response to a weak out-group's norm transgression (i.e., a disproportionate response).

## Method

### *Participants, Design, and Procedure*

Students at the University of Amsterdam (109 women, 22 men; mean age 20 years) participated in a scenario experiment in exchange for partial course credit. Participants were randomly assigned to the conditions of Study 1 constituting a 2 (out-group norm transgression: strong vs. weak)  $\times$  2 (in-group response: strong vs. weak) factorial design. Intergroup anxiety was measured before the experimental manipulations and treated as a continuous predictor in general linear model (GLM) analyses.

On arrival, participants were seated in separate cubicles. In each cubicle, the experimenter administered a paper-and-pencil questionnaire and asked participants to complete the survey by making choices on 7-point Likert-type scales (1 = *not at all*, 7 = *very much*). The scenario experiment was disguised as a survey conducted by an independent research body. This survey was about the opinion of 1st-year psychology students at the University of Amsterdam on an issue in Dutch society: "How do we perceive the homeless people in the Netherlands?" After responding to a measure of intergroup anxiety and some filler items, participants read the scenario in which a group of homeless people enter the university canteen (see Pilot Study 2 and Appendix B). Then we manipulated the in-group's response: In the weak in-group response conditions, participants read the following: "Then another student stands up and intervenes politely between the homeless and the student. He asks them to leave in a friendly way." In the strong in-group response conditions, the last two lines were changed to the following: "Then another student stands up and intervenes between the homeless and the student. He pushes them away and starts shouting at them to leave." After this second manipulation, dependent measures were obtained and participants were thanked, debriefed, and given their course credit.

### *Measured Variables*

*Intergroup anxiety.* We formed a scale by aggregating the six items we used in Pilot Study 1 ( $\alpha = .79, M = 3.68, SD = 1.26$ ). We then followed the procedure

suggested by Aiken and West (1991) by centering the scores.

**Manipulation checks.** We checked the effectiveness of our manipulation of out-group norm transgression with the item “I think the homeless went too far for my standards.” We checked the manipulation of in-group response with the item “I think that the student’s response went too far for my standards.”

**Anger toward the homeless and anger toward the in-group.** We measured anger toward the homeless with two items ( $\alpha = .76$ , i.e., “I am [angry/furious] at the homeless”). We also measured anger toward the in-group with two items ( $\alpha = .87$ , i.e., “I am [angry/furious] at the student”).

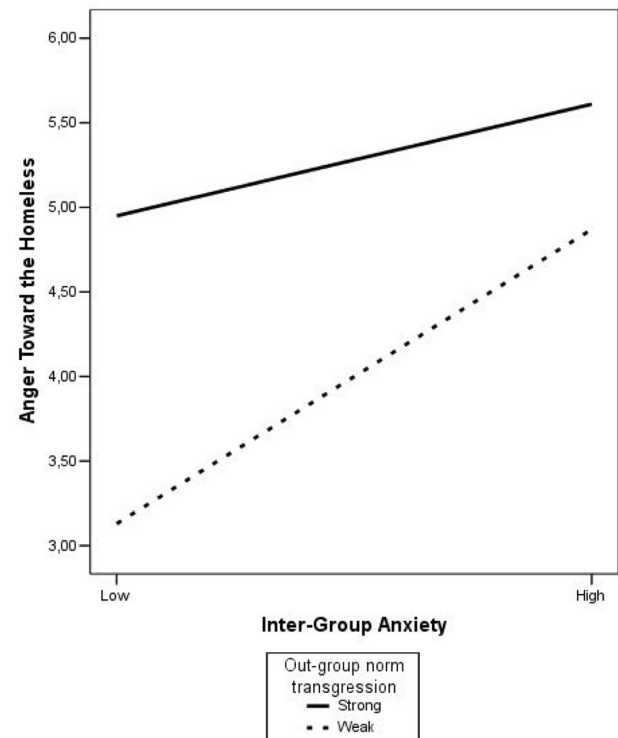
## Results

### Manipulation Checks

We performed a GLM analysis with out-group norm transgression, in-group response, and intergroup anxiety (centered) as the independent variables and the out-group norm transgression item as the dependent variable. Results showed only a significant main effect of out-group norm transgression on this manipulation check,  $F(1, 127) = 15.39$ ,  $p < .001$ ,  $\eta^2 = .11$ . Mean levels of perceived norm transgression were higher for the strong ( $M = 6.10$ ,  $SD = 1.56$ ) as compared to the weak ( $M = 5.01$ ,  $SD = 1.52$ ) condition. Thus, we succeeded in manipulating the strength of the out-group norm transgression.

We then performed a similar GLM analysis with the in-group response item as the dependent variable. Results indeed showed a significant main effect of in-group response on the in-group response item,  $F(1, 127) = 128.14$ ,  $p < .001$ ,  $\eta^2 = .51$ . However, there was also a main effect of out-group norm transgression,  $F(1, 127) = 4.31$ ,  $p < .04$ ,  $\eta^2 = .03$ , qualified by their two-way interaction,  $F(1, 127) = 5.75$ ,  $p < .02$ ,  $\eta^2 = .05$ . Inspection of the means revealed that the expected main effect of in-group response (i.e., people thought more strongly that the in-group response went too far in the strong than the weak in-group response condition) held under both conditions of the out-group norm transgression manipulation. However, the effect was weaker in the condition in which the out-group strongly transgressed the norm (simple main effect:  $F[1, 123] = 40.90$ ,  $p < .001$ ,  $\eta^2 = .25$ ;  $M = 4.37$ ,  $SD = 1.56$  vs.  $M = 2.12$ ,  $SD = 1.35$ ) than when they only weakly transgressed the norm (simple main effect:  $F[1, 123] = 91.63$ ,  $p < .001$ ,  $\eta^2 = .43$ ;  $M = 5.50$ ,  $SD = 1.50$  vs.  $M = 2.04$ ,  $SD = 1.04$ ). Thus, people thought that particularly a strong in-group response to a weak norm transgression (i.e., a disproportionate response) went too far for their standards.

**Anger toward the homeless.** We performed a similar GLM analysis with anger toward the homeless as the



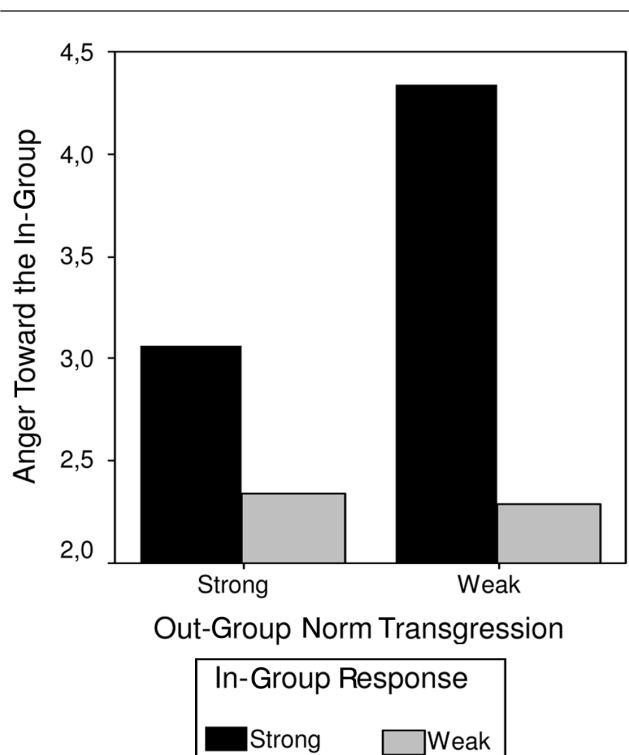
**Figure 1** Two-way interaction effect between intergroup anxiety and out-group norm transgression on anger toward the homeless, Study 1.

NOTE: Intergroup anxiety is represented as a continuous variable with High = +1 SD from the mean and Low = -1 SD from the mean.

dependent variable. As expected, we found main effects of out-group norm transgression,  $F(1, 127) = 30.88$ ,  $p < .001$ ,  $\eta^2 = .20$ , and inter-group anxiety,  $B = .39$ ,  $p < .001$ ,  $\eta^2 = .17$ , qualified by their respective two-way interaction,  $F(1, 127) = 4.20$ ,  $p < .04$ ,  $\eta^2 = .02$ . This interaction effect was thus independent of the in-group response manipulation and is displayed in Figure 1. In the weak transgression condition, intergroup anxiety indeed strongly predicted anger toward the homeless,  $B = .68$ ,  $SE = .14$ ,  $p < .001$ . In the strong transgression condition, this effect was weaker but still significant,  $B = .26$ ,  $SE = .12$ ,  $p < .04$ . In line with predictions, intergroup anxiety amplified individuals’ feelings of anger toward the homeless following out-group-initiated contact.

**Anger toward the in-group.** A similar GLM analysis with anger toward the in-group as the dependent variable showed a significant two-way interaction between out-group and in-group response,  $F(1, 127) = 6.73$ ,  $p < .01$ ,  $\eta^2 = .05$ , which qualified the respective main effects of out-group,  $F(1, 127) = 6.35$ ,  $p < .01$ ,  $\eta^2 = .05$ , and in-group response on anger toward the in-group,  $F(1, 127) = 30.20$ ,  $p < .001$ ,  $\eta^2 = .20$ . As can be seen in Figure 2, after a strong transgression by the out-group, a strong in-group response indeed resulted in more anger toward the in-group ( $M = 3.03$ ,  $SD = 1.34$ ) than a weak





**Figure 2** Two-way interaction effect between in-group and out-group norm transgression on anger toward the in-group, Study 1.

response ( $M = 2.32$ ,  $SD = 1.43$ ),  $F(1, 123) = 4.32$ ,  $p < .05$ ,  $\eta^2 = .03$ . After a weak out-group transgression, however, this effect was stronger,  $F(1, 127) = 31.87$ ,  $p < .001$ ,  $\eta^2 = .21$  ( $M = 4.30$ ,  $SD = 1.27$  vs.  $M = 2.30$ ,  $SD = 1.45$ ). Note that this pattern of results is similar to that on the in-group response item.

## Discussion

Study 1 showed first support for the hypothesis that intergroup anxiety amplifies individuals' feelings of anger toward an out-group following out-group-initiated contact. Whereas intergroup anxiety even amplified individuals' feelings of anger toward the homeless following a strong norm transgression, intergroup anxiety more strongly amplified their anger toward the homeless after a weak norm transgression. In contrast, results showed that intergroup anxiety did not affect individuals' feelings of anger toward their in-group's transgression in any way. Rather, most anger toward the in-group was reported when a weak norm transgression by the homeless was followed by a strong in-group response (i.e., a disproportionate response). Thus, Study 1 showed first support for the idea that intergroup anxiety can amplify negative but offensive responses to out-group-initiated contact.

However, there are several limitations of Study 1. First, the mere presence of the in-group response manipulation may have contaminated our results. For example, any in-group response may have set an in-group norm for

participants' responses. However, the finding that people thought that the strong in-group response was going too far when preceded by a weak out-group transgression argues against this. Nonetheless, we decided to omit the in-group response in Study 2. Second, our line of reasoning implies that individuals' threat appraisal should explain their feelings of anger toward the homeless. Moreover, another implication is that individuals' feelings of anger should predict their offensive action tendencies toward the out-group. We, therefore, added measures of threat appraisal and offensive action tendencies in Study 2. In addition, a critic may argue that measuring intergroup anxiety just before people read the scenario may have made the concept of anxiety cognitively salient or accessible. Any effects of intergroup anxiety would therefore reflect the mere salience of the concept. To counter this explanation we decided to measure intergroup anxiety in Study 2 approximately 40 minutes before the scenario study. Finally, it could be argued that the effects of intergroup anxiety result from prejudice. Therefore, we included a premeasure of prejudice in Study 2 so that we could statistically control for its potential effects.

## STUDY 2

Study 2 had two aims. First, we wanted to replicate the Study 1 finding that intergroup anxiety amplifies individuals' anger toward the homeless. The second aim of Study 2 was to extend the Study 1 results by finding similar effects on individuals' threat appraisal (which should explain their anger) and their offensive action tendencies (which should be explained by their anger).

## Method

### *Participants, Design, and Procedure*

Students at the University of Amsterdam (45 females, 18 males; mean age 20 years) participated in a scenario experiment in exchange for partial course credit. Participants were randomly assigned to the conditions in a one-factor design (out-group norm transgression: strong vs. weak). Intergroup anxiety was measured approximately 40 minutes before the experimental manipulation (in the meantime, participants were engaged in another study).

At the beginning of the hour-long session, participants filled out a survey conducted by an independent research body. This survey was about the opinion of 1st-year psychology students at the University of Amsterdam on an issue in Dutch society: "How do people perceive the homeless in the Netherlands?" It included our measure of intergroup anxiety but also measures of prejudice, realistic threat, symbolic threat, and negative contact.<sup>2</sup> After being engaged in an unrelated study for approximately 40 minutes, participants were asked to read the scenario. After participants com-

pleted the survey, they were thanked, debriefed, and given their course credit.

### Measured Variables

**Intergroup anxiety.** We formed a scale by aggregating the same six items we used in Study 1 ( $\alpha = .88$ ,  $M = 3.39$ ,  $SD = 1.19$ ).

**Manipulation check.** We checked the effectiveness of our manipulation of out-group norm transgression with a two-item scale ("I think the homeless went too far for my [own/social] standards";  $\alpha = .85$ ,  $M = 5.52$ ,  $SD = 1.25$ ).

**Threat appraisal.** We measured perceived threat with three items (i.e., "I think the homeless' behavior is threatening," "I think the homeless' behavior is disturbing," and "I think the homeless' behavior is frightening";  $\alpha = .64$ ,  $M = 5.40$ ,  $SD = 1.00$ ).

**Anger toward the homeless.** We improved our measure of anger toward the homeless by adding one item, constituting a three-item scale ( $\alpha = .76$ ; i.e., "I am [angry/furious/*kwaad* (a Dutch synonym for angry)] toward the homeless";  $M = 5.04$ ,  $SD = 1.17$ ).

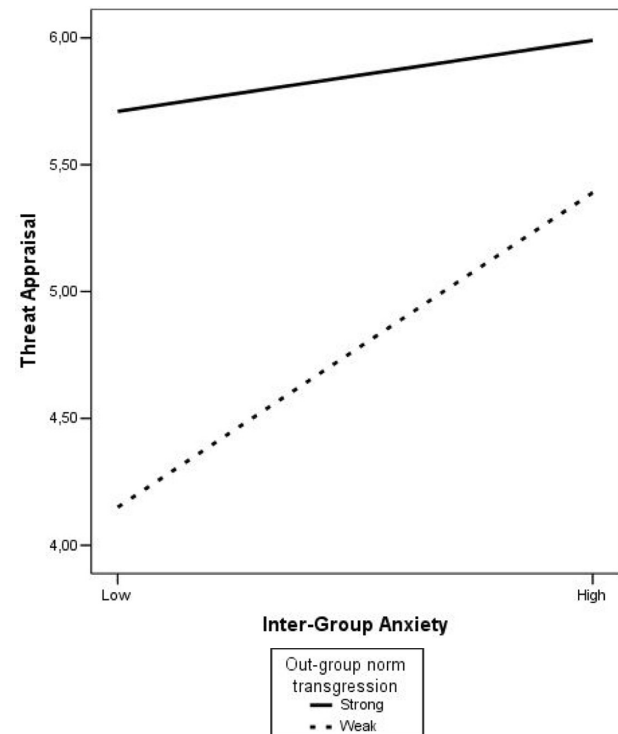
**Offensive action tendencies toward the homeless.** We measured offensive action tendencies toward the homeless with five items ( $\alpha = .74$ ; i.e., "I would [confront/swear at/send away/stand up to] the homeless," and "I would force the homeless to leave the can-teen";  $M = 4.73$ ,  $SD = 1.06$ ).

## Results

### Analyses of Means

**Manipulation checks.** We performed a GLM analysis with out-group norm transgression and intergroup anxiety (centered) as the independent variables and the manipulation check as the dependent variable. The results showed a significant main effect of out-group norm transgression on the out-group norm transgression check,  $F(1, 59) = 11.55$ ,  $p < .001$ ,  $\eta^2 = .16$ . Inspection of the means revealed that mean levels of perceived norm transgression were higher for the strong ( $M = 5.96$ ,  $SD = 1.22$ ) as compared to the weak ( $M = 4.91$ ,  $SD = 1.18$ ) condition. Thus, we once again succeeded in manipulating the strength of the out-group norm transgression.

**Threat appraisal.** We performed a similar GLM analysis with threat appraisal as the dependent variable. As expected, we found main effects of out-group norm transgression,  $F(1, 59) = 22.52$ ,  $p < .001$ ,  $\eta^2 = .28$ ,

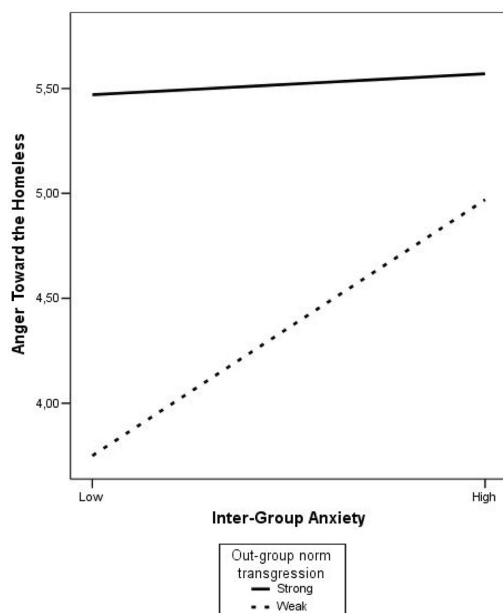


**Figure 3** Two-way interaction effect between intergroup anxiety and out-group norm transgression on threat appraisal, Study 2. NOTE: Intergroup anxiety is represented as a continuous variable with High = +1 SD from the mean and Low = -1 SD from the mean.

and intergroup anxiety,  $B = .52$ ,  $p < .001$ ,  $\eta^2 = .19$ , qualified by their respective two-way interaction,  $F(1, 59) = 4.30$ ,  $p < .05$ ,  $\eta^2 = .07$ .

In the weak transgression condition, intergroup anxiety strongly predicted threat appraisal,  $B = .52$ ,  $SE = .13$ ,  $p < .001$ . However, in the strong transgression condition, the effect was weaker and even nonsignificant,  $B = .12$ ,  $SE = .18$ ,  $p > .37$ . Figure 3 illustrates that as predicted, intergroup anxiety amplified threat appraisal following the weak norm transgression by the out-group.

**Anger toward the homeless.** We performed a similar GLM analysis with anger toward the homeless as the dependent variable. As expected, we found main effects of out-group norm transgression,  $F(1, 59) = 16.70$ ,  $p < .001$ ,  $\eta^2 = .22$ , and intergroup anxiety,  $B = .52$ ,  $p < .01$ ,  $\eta^2 = .13$ , qualified by their respective two-way interaction,  $F(1, 59) = 4.02$ ,  $p < .05$ ,  $\eta^2 = .06$ . In the weak transgression condition, intergroup anxiety strongly predicted anger toward the homeless,  $B = .52$ ,  $SE = .18$ ,  $p < .01$ . However, in the strong transgression condition, the effect was weaker and again nonsignificant,  $B = .04$ ,



**Figure 4** Two-way interaction effect between intergroup anxiety and out-group norm transgression on anger toward the homeless, Study 2.

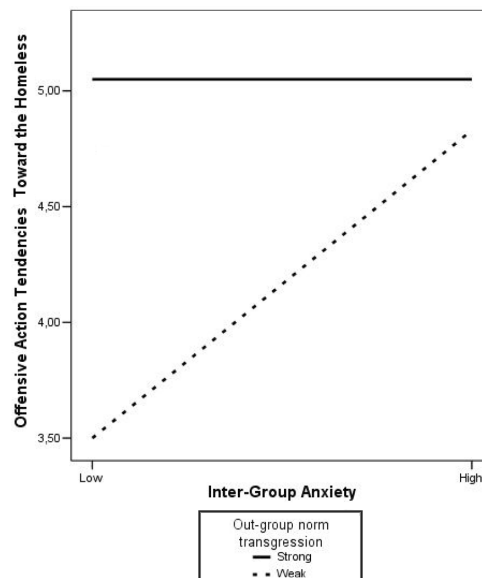
NOTE: Intergroup anxiety is represented as a continuous variable with High = +1 SD from the mean and Low = -1 SD from the mean.

$SE = .16$ ,  $p > .80$ . Thus, intergroup anxiety amplified feelings of anger toward the homeless following the weak norm transgression by the out-group (see Figure 4). This result replicates Study 1 and the pattern of results on threat appraisal.

*Offensive action tendencies toward the homeless.* We performed a similar GLM analysis with offensive action tendencies toward the homeless as the dependent variable. As expected, there was a main effect of out-group norm transgression,  $F(1, 59) = 11.96$ ,  $p < .001$ ,  $\eta^2 = .17$ , and a main effect of intergroup anxiety,  $B = .56$ ,  $p < .001$ ,  $\eta^2 = .18$ . The predicted two-way interaction was significant,  $F(1, 59) = 6.44$ ,  $p < .02$ ,  $\eta^2 = .10$ . In the weak transgression condition, intergroup anxiety strongly predicted offensive action tendencies toward the homeless,  $B = .56$ ,  $SE = .16$ ,  $p < .001$ . However, in the strong transgression condition, the effect was non-significant,  $B = .01$ ,  $SE = .15$ ,  $p > .98$ . Thus, in addition to threat and anger, intergroup anxiety amplified offensive action tendencies following the weak norm transgression by the out-group (see Figure 5).

#### Controlling for Prejudice Toward the Homeless

Because we included a measure of prejudice toward the homeless in Study 2, we also checked whether the effects of intergroup anxiety could be accounted for by



**Figure 5** Two-way interaction effect between intergroup anxiety and out-group norm transgression on offensive action tendencies toward the homeless, Study 2.

NOTE: Intergroup anxiety is represented as a continuous variable with High = +1 SD from the mean and Low = -1 SD from the mean.

prejudice toward the homeless. However, when we entered prejudice as an additional predictor in the analyses reported above, its influence on threat appraisal, anger, and offensive action tendencies was not significant (with  $F_s < .14$ ,  $p_s > .70$ ). Additional analyses examining whether the amplifying effects of intergroup anxiety on threat, anger, and offensive action tendencies following a weak norm transgression would be explained away when prejudice was entered as a covariate also indicated that intergroup anxiety rather than prejudice is responsible for these effects (with  $\beta_s$  for prejudice  $< .16$ ,  $p_s > .38$ ).

#### Mediation Analyses

Because the interaction patterns on our measures of threat, anger, and offensive action tendencies were similar, we tested whether threat appraisal would explain the amplifying effects of intergroup anxiety on individuals' anger and offensive action tendencies (Baron & Kenny, 1986). We already established that intergroup anxiety predicted anger after the weak norm transgression ( $\beta = .47$ ,  $p = .006$ ) and threat appraisal ( $\beta = .58$ ,  $p < .001$ ). When entering threat appraisal in the first regression equation, threat appraisal strongly predicted anger ( $\beta = .78$ ,  $p < .001$ ), and the effect of intergroup anxiety on anger turned nonsignificant ( $\beta = .03$ ,  $p > .86$ ). A Sobel test suggested that the indirect effect was significant ( $z = 3.18$ ,  $p < .01$ ).

Although these data cannot prove causality, results are nonetheless in line with our theoretical rationale. We also tested for the reverse mediation sequence where anger mediated the effect of intergroup anxiety on threat appraisal. Entering anger into the regression equation resulted in a still significant effect of intergroup anxiety on threat appraisal (a decrease from  $\beta = .58, p < .001$ , to  $\beta = .27, p < .04$ ), despite a significant indirect effect as indicated by the Sobel test ( $z = 2.60, p < .01$ ). Thus, although the indirect path through anger was significant, it did not fully explain the direct path between intergroup anxiety and threat appraisal. We, therefore, conclude that results are more in line with our assumed mediation sequence than with the reverse sequence.

We also explored whether individuals' offensive action tendencies in response to a weak norm transgression were explained best by their feelings of anger, threat appraisal, or intergroup anxiety. In line with expectations, results showed that anger was the best and even the only predictor ( $\beta = .78, p < .001$ ) with no significant effects for threat ( $\beta = .01, p > .94$ ) and intergroup anxiety ( $\beta = .16, p > .15$ ).

## Discussion

Study 2 showed more support for the amplifying effects of intergroup anxiety on measures of individuals' threat appraisal, anger, and offensive action tendencies toward the homeless. Additional analyses suggested that in line with our theoretical rationale, threat appraisal explained the amplifying effect of intergroup anxiety on individuals' anger toward the homeless. Moreover, in line with expectations, anger was the best predictor of individuals' offensive action tendencies toward the homeless. Thus, Study 2 supported the idea that intergroup anxiety amplifies individuals' negative and offensive responses to out-group-initiated contact through their increased threat appraisal. Moreover, the Study 2 results further suggest that the effects of intergroup anxiety are not due to the time of measurement of intergroup anxiety or to the presence or absence of the in-group response to the out-group's action. Finally, Study 2 extended the Study 1 results by providing empirical evidence for the hypothesized process by which intergroup anxiety amplifies negative and offensive responses to out-group-initiated contact and by ruling out the alternative explanation concerning prejudice.

However, a critic may argue that although we argue for emotion specificity (i.e., that anger should predict offensive action tendencies), we did not show that other emotional responses do not predict offensive action tendencies to support this argument. We, therefore, added measures of out-group fear and avoidance tendencies. If our emotion-specific argument is correct, then we should

find that only anger predicts offensive action tendencies (and only fear should predict avoidance tendencies). Furthermore, another criticism might be that scenario studies typically have limited experimental realism. If true, then because of this lack of realism the consistent results we obtained in Study 1 and 2 may not reflect real but imagined psychological processes. Although research suggests that this difference might not be as important as is often thought (Robinson & Clore, 2001), we followed up Studies 1 and 2 by increasing the experimental realism of Study 3. Because of the amplifying effects of intergroup anxiety were most visible in response to a weak norm transgression in Studies 1 and 2, we decided to use this condition as the basis for Study 3.

## STUDY 3

The main aim of Study 3 was to show that the key findings from our scenario experiments hold up in more realistic experimental settings. Participants were therefore led to anticipate a face-to-face interview with a homeless person.

## Method

### *Participants and Procedure*

Students at the VU University (22 females, 15 males; mean age 21 years) participated in this experiment in exchange for €5 (the equivalent of US\$6.50). After being welcomed by the experimenter, participants were seated in a cubicle in front of a computer screen. The experimenter introduced the study as an interaction study consisting of a 30-minute computer-based session and a 15-minute interaction session that would take place in an adjacent laboratory. Through computer-based instructions, participants read that they were going to do a personality test (which included an unobtrusive measure of intergroup anxiety among a variety of test items), a taste test (which was a filler), and an interaction test, followed by the actual interaction session in an adjacent laboratory.

In the first part (the personality test), participants answered questions about themselves in relation to others. In a randomized order, the questionnaire battery included relevant (i.e., intergroup anxiety toward the homeless, six items;  $\alpha = .92, M = 3.51, SD = 1.31$ ) and irrelevant items (e.g., items tapping [mock] personality traits). In addition, participants did a (mock) Implicit Association Test that asked people to respond to positive and negative words combined with Dutch and Moroccan names. The point of this exercise was to make our measurement of intergroup anxiety less



obtrusive. For the same reason, in the second part (the taste test), we had participants sample and evaluate different sauces. Participants were then informed that the third part (the interaction test) would start soon.

The third part of the computer-based session specified what would happen in this interaction session, and it contained our dependent measures. Through computer-based instructions, participants were informed that they were taking part in research on the effects of "structured and unstructured interviewing." They were led to anticipate that they were going to interview another person in the other laboratory, which was going to be observed by the leading researcher of the project. They were asked to open a sealed envelope in which they could find information about whether they were going to do a structured or unstructured interview as well as the person they were meant to interview. In the envelope, all participants found a one-page personal file of the interviewee and a two-page structured interview. The personal file contained information as well as a picture of a 42-year-old homeless man. Although he had had some personal problems in the past, he was now involved in a project that aimed to help other homeless people to refrain from petty crime. The structured interview contained an introduction, five open-ended questions, and a closing statement. The instructions stated that participants had to make sure that the interviewee would answer all five questions in the allotted time.

Participants then answered computer-based questions about the objective information concerning the interviewee and the interview. We used these answers to check whether participants had read the information carefully. Then participants read on the computer screen that because people may feel awkward about the upcoming interview it would be good for them to anticipate the interview and think of what their response might be (so as to be more prepared). Therefore, we asked participants to anticipate that at some point in the interview, the interviewee would start acting negatively by asking for some money (consistent with the weak norm transgression condition we used earlier). Participants were then asked for their expectations, and dependent measures were obtained on 7-point Likert-type scales in a randomized order (see Measured Variables below). At this point, participants were fully debriefed, paid, and thanked for their participation.

### Measured Variables

*Out-group norm transgression.* We measured the extent to which people perceived the action (i.e., asking for money) as a norm transgression with the two items from Study 2 ( $\alpha = .83$ ,  $M = 4.49$ ,  $SD = 1.57$ ).

*Threat appraisal.* We measured perceived threat with two items in Study 3 (i.e., "I think the homeless' behavior is threatening," and "I think the homeless' behavior is frightening";  $\alpha = .86$ ,  $M = 4.01$ ,  $SD = 1.69$ ).

*Anger toward and fear of the homeless person.* We used the same three-item anger measure as in Study 2 ( $\alpha = .93$ ,  $M = 3.38$ ,  $SD = 1.73$ ). We also included a two-item measure of fear of the homeless person (i.e., "I am afraid of the homeless person" and "I am scared of the homeless person";  $\alpha = .93$ ,  $M = 3.45$ ,  $SD = 1.60$ ).

*Offensive action and avoidance tendencies toward the homeless person.* We also measured offensive action tendencies toward the homeless person with three items. Because of the interview context, we used three items adapted to this context (i.e., "I would force the homeless person to stop," "I would put the homeless person in his place," and "I would show the homeless person that I resent him";  $\alpha = .68$ ,  $M = 2.84$ ,  $SD = 1.23$ ). Finally, we measured avoidance tendencies with two items (i.e., "I would walk away from the homeless person" and "I would stop doing the interview";  $\alpha = .88$ ,  $M = 2.71$ ,  $SD = 1.25$ ). Although the means were on the lower side of the 7-point scale, there is sufficient variance on these measures to be predicted by anger or fear.

### Results and Discussion

First, we calculated the correlations between intergroup anxiety and the other measured variables. As predicted, intergroup anxiety was positively correlated with perceived norm transgression ( $r = .53$ ,  $p < .01$ ), threat appraisal ( $r = .48$ ,  $p < .01$ ), and feelings of anger toward the homeless person ( $r = .43$ ,  $p < .02$ ). However, it did not correlate significantly with offensive action tendencies toward them ( $r = .09$ ,  $p > .59$ ). Similarly, intergroup anxiety correlated significantly with fear of the homeless person ( $r = .49$ ,  $p < .01$ ) but not with avoidance tendencies ( $r = .17$ ,  $p > .33$ ).

Second, regression analyses showed that feelings of anger were no longer explained by intergroup anxiety ( $\beta = .20$ ,  $p > .21$ ) when threat appraisal was taken into account ( $\beta = .47$ ,  $p < .01$ ), Sobel's  $z = 2.15$ ,  $p < .04$ . Moreover, this effect remained ( $\beta = .39$ ,  $p < .05$ ) when perceptions of norm transgression were entered into the regression equation ( $\beta = .19$ ,  $p > .32$ ). Tests of reverse mediation resulted in a marginally significant direct effect ( $\beta = .29$ ,  $p = .06$ ), and a significant indirect effect, Sobel's  $z = 2.00$ ,  $p < .05$ . Thus, as in Study 2 results were somewhat more in line with our assumed causal sequence than with the reverse sequence.

Similarly, feelings of fear were no longer explained by intergroup anxiety ( $\beta = .06$ ,  $p > .47$ ) when threat



appraisal was taken into account ( $\beta = .88, p < .001$ ), Sobel's  $z = 3.04, p < .01$ . Moreover, this effect remained ( $\beta = .85, p < .001$ ) when perceptions of norm transgression were entered into the regression equation ( $\beta = .06, p > .54$ ). Tests of reverse mediation showed almost identical results, Sobel's  $z = 3.05, p < .01$ . Hence, results were inconclusive in this respect.

In a final series of analyses, we tested whether anger or fear would be the best predictor of offensive action and avoidance tendencies toward the homeless person. Results showed that anger indeed predicted offensive action tendencies toward the homeless ( $\beta = .74, p < .001$ ), whereas fear did not ( $\beta = -.22, p > .17$ ). In contrast, fear marginally predicted avoidance tendencies ( $\beta = .34, p < .07$ ), whereas anger did not ( $\beta = .20, p > .27$ ).

In sum, results supported the idea that (a) intergroup anxiety amplified threat, fear, and anger responses but that (b) offensive action tendencies were predicted only by anger (which fits with our argument for emotion-specificity). Although intergroup anxiety did not directly predict offensive action tendencies (which may be due to their relatively low mean level in Study 3), anger did. Thus, Study 3 generally replicated the amplifying effects of intergroup anxiety while extending them to a more experimentally realistic context.

## GENERAL DISCUSSION

Three studies provided support for the idea that intergroup anxiety amplifies individuals' negative and offensive responses to out-group-initiated contact because of their increased threat appraisal of out-group-initiated contact. Our results thus show that intergroup anxiety can translate into approach rather than avoidance responses when out-group-initiated contact is perceived as transgressing a norm. Put differently, it seems that the limits of tolerance are more easily tested and exceeded when intergroup anxiety is stronger, which is indicated by stronger responses in terms of threat, anger, and offensive action tendencies.

A strong point of this research is that the results argue in favor of the amplifying effects of intergroup anxiety on individuals' specific emotional responses to specific situations of out-group-initiated contact. Our studies fill a gap in the literature because intergroup anxiety is typically treated as a general predictor of prejudice rather than as a moderator of specific emotional responses to specific situations (see Britt et al., 1996). Moreover, when intergroup anxiety results in avoidance of the out-group, and in such avoidance being in-group normative, out-group-initiated contact is likely to be perceived as a norm transgression, with responses of

threat, anger, and offensive action tendencies as a consequence.

Results were in line with different lines of theory and research, such as work on the cognitive effects of anxiety (e.g., Eysenck, 1997, 2000), on appraisal theories of emotion (e.g., Scherer et al., 2001), on intergroup emotion theory (e.g., Smith, 1993), and on value protection models (e.g., Tetlock et al., 2000). However, our results also go beyond these different lines of research by suggesting that stronger intergroup anxiety leads individuals to interpret out-group-initiated contact as more threatening. Such a biased threat appraisal of out-group-initiated contact may be important in specific situations of intergroup contact and is deserving of further study.

## Limitations and Future Research

An insightful addition to these studies would be the inclusion of a behavioral measure of offensive action. However, there are at least two reasons for why we chose to study action tendencies in their own right. First, some appraisal theorists view specific action tendencies as key to a specific emotional experience (e.g., Frijda, 1986). However, the link between an action tendency and subsequent behavior may be moderated by other variables (including social norms and impression management) that complicate the interpretation of such behavior. Second, a major obstacle to studying offensive action in general (e.g., harming others) is the difficulty of doing such experiments without violating ethical standards and without losing credibility among participants. We think our choice of methods helped us to achieve the main aim of this article of elucidating the amplifying influence of intergroup anxiety on negative and offensive responses to out-group-initiated contact.

Furthermore, although this research has outlined some conditions under which individuals' limits of tolerance are exceeded, it does not fully answer the question why intergroup anxiety amplifies these responses. An elegant theoretical answer to this question is that intergroup anxiety results in a particular motivation that can manifest itself in different responses to different situations. Indeed, Frijda, Kuipers, and ter Schure (1989) argued that anxiety and fear are distinguished from all other emotions by the motivation to protect the self. Indeed, self-protection can be facilitated through avoidance of the initiation of intergroup contact (e.g., Stephan et al., 2002) and through negative and offensive action toward the out-group. Identifying this common motivation for different responses to out-group-initiated contact should be a next step for future research to take.<sup>3</sup>

More generally, our results do not paint a very positive picture of the role of intergroup anxiety in intergroup relations. Intergroup anxiety facilitates avoidance of intergroup contact on one hand, whereas it also seems to amplify individuals' negative and offensive responses to out-group-initiated contact on the other hand. It would be quite an understatement to say that both effects of intergroup anxiety are unlikely to stimulate intergroup harmony. Nonetheless, all these negative responses can be traced back to intergroup anxiety and, hence, interventions aimed at reducing intergroup anxiety should be further developed and implemented. Indeed, without such interventions intergroup anxiety will continue to stimulate the deterioration of intergroup relations across the world.

#### APPENDIX A: SURVEY ITEMS USED IN PILOT STUDY 1 AND STUDY 2

##### NEGATIVE ATTITUDES (12 ITEMS)

My attitude toward the homeless is one of [approval\*/acceptance\*/disapproval/superiority/hostility/admiration\*/contempt/sympathy\*/dislike/affection\*].  
I think the homeless are generally [nice\*/warm\*] people.

##### REALISTIC THREAT (4 ITEMS)

I think the homeless have too much [economical power/political power/influence] on society.  
I see the homeless as a threat to society.

##### SYMBOLIC THREAT (6 ITEMS)

I think that the homeless have [a different mentality/different general values/different work ethics/different general ethics/different norms] than those who have homes.  
I think that the homeless do not value the general values of those who have homes.

##### INTERGROUP ANXIETY (6 ITEMS)

When I see a homeless person on the street, I usually feel [uneasy/nervous/threatened/uncertain/uncomfortable/anxious].

##### FREQUENCY OF NEGATIVE CONTACT (6 ITEMS)

To what extent have you been [verbally abused/insulted/threatened/bothered/discriminated/physically abused] by a homeless person in the past?

\*These items were reverse-coded.

#### APPENDIX B: MANIPULATION OF NORM TRANSGRESSION USED IN STUDIES 1 AND 2

##### STIMULUS MATERIAL IN THE STRONG OUT-GROUP NORM TRANSGRESSION CONDITION

On the 14th of November 2002, a group of homeless people enters the canteen of the University of Amsterdam. They are somewhat noisy but appear not to bother anyone.

Somewhat later, one of the homeless approaches a student who is eating his lunch and asks the student ironically whether he thinks it is more preferable to be warm inside or cold outside. *Then the other homeless join him in insulting and pushing the student while asking for money.*

##### STIMULUS MATERIAL IN THE WEAK OUT-GROUP NORM TRANSGRESSION CONDITION

On the 14th of November 2002, a group of homeless people enters the canteen of the University of Amsterdam. They are somewhat noisy but appear not to bother anyone.

Somewhat later, one of the homeless approaches a student who is eating his lunch and asks the student ironically whether he thinks it is more preferable to be warm inside or cold outside. *Then the other homeless join in a sad song on the unfair distribution of outcomes in the world, while asking for money.*

NOTE: Italics in the text were not present in the original.

#### NOTES

1. Integrated threat theory (Stephan, Ybarra, Martinez, Schwarzwald, & Tur-Kaspa, 1998) posits that other than intergroup anxiety there are two other types of threat that can predict prejudice toward a particular out-group: realistic threats (about material, economical, and political issues) and symbolic threats (about perceived differences in morals, values, standards, beliefs, and attitudes). For a pure investigation of the amplifying effects of intergroup anxiety, we used an intergroup relation in which intergroup anxiety would predict prejudice toward an out-group above and beyond any realistic and symbolic threats. We, therefore, first examined this assumption for the intergroup relation between those who have homes and the homeless in Pilot Study 1.

2. As in Pilot Study 1, we measured prejudice (12 items,  $\alpha = .76$ ), realistic threat (six items,  $\alpha = .75$ ), symbolic threat (six items,  $\alpha = .85$ ), and negative contact (six items,  $\alpha = .83$ ). Results showed again that only intergroup anxiety significantly predicted prejudice against the homeless ( $\beta = .38, p = .002$ ). Furthermore, past negative contact was again correlated only with intergroup anxiety ( $r = .34, p = .007$ ). Results thus replicated the Pilot Study 1 results.

3. Although our choice of one specific out-group (see Footnotes 1 and 2) can be viewed as a possible limitation of this research, we actually predict similar (but perhaps weaker) results for other out-groups where intergroup anxiety is important in explaining prejudice toward them.

## REFERENCES

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. London: Sage.
- Averill, J. R. (1983). Studies on anger and aggression: Implications for theories of emotion. *American Psychologist*, 38, 1145-1160.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Britt, T. W., Boniecki, K. A., Vescio, T. K., Biernat, M., & Brown, L. M. (1996). Intergroup anxiety: A person  $\times$  situation approach. *Personality and Social Psychology Bulletin*, 22, 1177-1188.
- Corenblum, B., & Stephan, W. G. (2001). White fears and native apprehensions: An integrated threat theory approach to intergroup attitudes. *Canadian Journal of Behavioural Science*, 33, 251-268.
- Eysenck, M. W. (1997). *Anxiety and cognition: A unified theory*. Hove, UK: Psychology Press.
- Eysenck, M. W. (2000). Anxiety, cognitive biases, and beliefs. In N. H. Frijda, A. S. R. Manstead, & S. Bem (Eds.), *Emotions and beliefs: How feelings influence thoughts*. Cambridge, UK: Cambridge University Press.
- Frijda, N. H. (1986). *The emotions*. Cambridge, UK: Cambridge University Press.
- Frijda, N. H., Kuipers, P., & ter Schure, E. (1989). Relations among emotion, appraisal, and emotional action readiness. *Journal of Personality and Social Psychology*, 57, 212-228.
- Islam, M. R., & Hewstone, M. (1993). Dimensions of contact as predictors of intergroup anxiety, perceived out-group variability, and out-group attitude: An integrative model. *Personality and Social Psychology Bulletin*, 19, 700-710.
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.
- Lazarus, R. S. (2001). Relational meaning and discrete emotions. In K. R. Scherer, A. Schorr, & T. Johnstone (Eds.), *Appraisal processes in emotion* (pp. 37-67). Oxford, UK: Oxford University Press.
- Lerner, M. J. (1980). *The belief in a just world: A fundamental delusion*. New York: Plenum.
- Mackie, D. M., Devos, T., & Smith, E. R. (2000). Intergroup emotions: Explaining offensive action tendencies in an intergroup context. *Journal of Personality and Social Psychology*, 79, 602-616.
- Mackie, D. M., & Smith, E. R. (Eds.). (2002). *From prejudice to intergroup emotions: Differentiated reactions to social groups*. New York: Psychology Press.
- Mikula, G. (1993). On the experience of injustice. *European Review of Social Psychology*, 1, 223-244.
- Miller, D. T. (2000). Disrespect and the experience of injustice. *Annual Review of Psychology*, 52, 527-553.
- Robinson, M. D., & Clore, G. L. (2001). Simulation, scenarios, and emotional appraisal: Testing the convergence of real and imagined reactions to emotional stimuli. *Personality and Social Psychology Bulletin*, 27, 1520-1532.
- Roseman, I. J. (2001). A model of appraisal in the emotion system: Integrating theory, research, and applications. In K. R. Scherer, A. Schorr, & T. Johnstone (Eds.), *Appraisal processes in emotion* (pp. 68-91). Oxford, UK: Oxford University Press.
- Russell, D. W. (2002). In search of underlying dimensions: The use (and abuse) of factor analysis in *Personality and Social Psychology Bulletin*. *Personality and Social Psychology Bulletin*, 28, 1629-1646.
- Scherer, K. R. (2001). Appraisal considered as a process of multilevel sequential checking. In K. R. Scherer, A. Schorr, & T. Johnstone (Eds.), *Appraisal processes in emotion* (pp. 92-120). Oxford, UK: Oxford University Press.
- Scherer, K. R., Schorr, A., & Johnstone, T. (2001). *Appraisal processes in emotion*. Oxford, UK: Oxford University Press.
- Skitka, L. J., Baumann, C. W., & Mullen, E. (2004). Political tolerance and coming to psychological closure following the September 11, 2001, terrorist attacks: An integrative approach. *Personality and Social Psychology Bulletin*, 30, 743-756.
- Smith, E. R. (1993). Social identity and social emotions: Toward new conceptualizations of prejudice. In D. M. Mackie & D. L. Hamilton (Eds.), *Affect, cognition, and stereotyping: Interactive processes in group perception* (pp. 297-315). San Diego, CA: Academic Press.
- Stephan, W. G., Boniecki, K. A., Ybarra, O., Bettencourt, A., Ervin, K. S., Jackson, L. A., et al. (2002). The role of threats in the racial attitudes of Blacks and Whites. *Personality and Social Psychology Bulletin*, 28, 1242-1254.
- Stephan, W. G., Diaz-Loving, R., & Duran, A. (2000). Integrated threat theory and intercultural attitudes: Mexico and the United States. *Journal of Cross-Cultural Psychology*, 31, 240-249.
- Stephan, W. G., & Stephan, C. W. (1985). Inter-group anxiety. *Journal of Social Issues*, 41, 157-175.
- Stephan, W. G., & Stephan, C. W. (1989). Antecedents of intergroup anxiety in Asian-Americans and Hispanic-Americans. *International Journal of Intercultural Relations*, 13, 203-219.
- Stephan, W. G., & Stephan, C. W. (1996). Predicting prejudice. *International Journal of Intercultural Relations*, 20, 409-426.
- Stephan, W. G., Ybarra, O., Martinez, C. M., Schwarzwald, J., & Tur-Kaspa, M. (1998). Prejudice toward immigrants to Spain and Israel: An integrated threat theory analysis. *Journal of Cross-Cultural Psychology*, 29, 559-576.
- Tetlock, P. E. (2002). Social functionalist frameworks for judgment and choice: Intuitive politicians, theologians, and prosecutors. *Psychological Review*, 109, 451-471.
- Tetlock, P. E., Kirstel, O. V., Elson, S. B., Green, M. C., & Lerner, J. S. (2000). The psychology of the unthinkable: Taboo trade-offs, forbidden base rates, and heretical counterfactuals. *Journal of Personality and Social Psychology*, 78, 853-870.
- Van Zomeren, M., & Lodewijkx, H. F. M. (2005). Motivated responses to "senseless" violence: Explaining emotional and behavioral responses through person and position identification. *European Journal of Social Psychology*, 35, 755-766.
- Van Zomeren, M., Spears, R., Fischer, A. H., & Leach, C. W. (2004). Put your money where your mouth is! Explaining collective action tendencies through group-based anger and group efficacy. *Journal of Personality and Social Psychology*, 87, 649-664.

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